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Proper Handling Procedures for Refuse Collection



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Proper Handling Procedures for Refuse Collection



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**4E42A13—Garbage Removal—Protective
Equipment**

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Introduction

All National Forest units have to deal with refuse collection. Drug paraphernalia, syringes (or sharps), razor blades, broken glass, medical waste, disposable diapers, and similar items can be found at recreation areas and illegal dump sites. No matter where such items are found, Forest Service employees risk getting cut by contaminated objects, possibly coming in contact with the Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV), or other potentially infectious diseases.

The Missoula Technology and Development Center was asked to provide guidance on appropriate handling procedures and recommend engineering controls, safety tools, and personal protective equipment (PPE) for refuse collection work. Engineering controls are administrative actions that isolate or remove hazards from the workplace.

This report is intended to complement the publication, *Cleaning Recreation Sites* (9523-1206-SDTDC, Figure 1). It will help work supervisors better understand the risks associated with refuse collection. It also provides guidance on the appropriate actions workers can take to minimize their risk of being injured or exposed to contaminants, such as used syringes and other sharp objects.

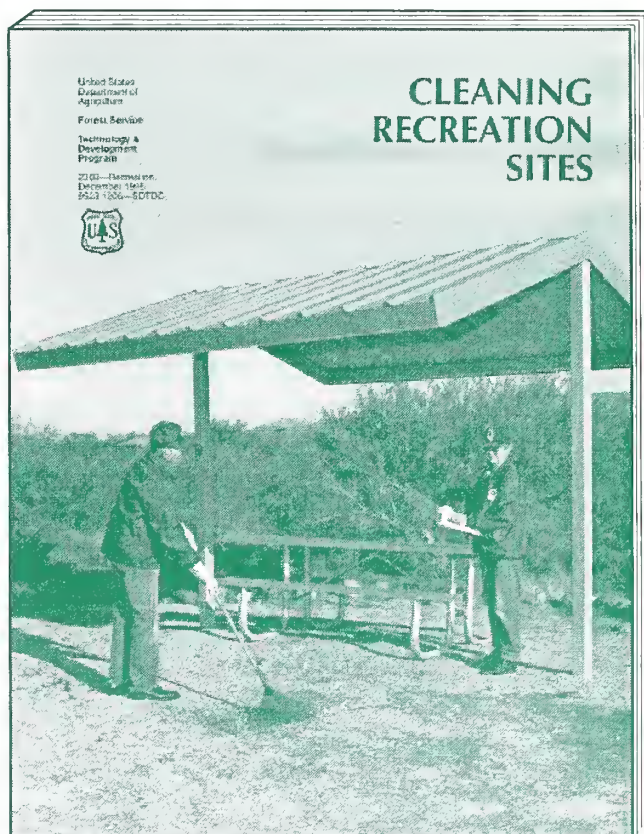


Figure 1—Cleaning Recreation Sites, 9523-1206-SDTDC.

Introduction

Preliminary Investigation

Information was gathered to determine what residential refuse collection companies (Figure 2) are doing to address similar concerns and to determine what, if any, engineering controls (such as personal protective equipment) provide effective protection against punctures from syringes or sharps. Employee awareness was found to provide the most effective and practical injury prevention program for refuse collection or sanitation workers. Residential refuse collection workers typically have less risk than some Forest Service employees for two reasons: reduced handling of plastic bags, and shorter distances between the garbage container and the truck. However, residential workers are at greater risk of back injuries because of the heavier container loads that are typical of curbside collection.



Figure 2—Industry practices.

Forest Service workers were observed removing refuse from containers and transporting it to awaiting trucks (Figure 3). The body areas most commonly exposed and vulnerable to cuts or puncture wounds include the hands, fingers, inner sides of the arms or forearms, outer thighs, lower legs, feet, chest, and abdominal areas. Refuse containers are typically far from roads, inside restrooms, or at remote campsites.

The reported cases of injuries resulting in cuts or punctures to refuse collection workers include: grappling large garbage bags with the arms, compacting garbage with the hands or feet, brushing garbage bags against their leg while carrying the bags to the truck, and reaching into containers to recycle aluminum cans, bottles, or other items (Figure 4).



Figure 3—Typical Forest Service practices.



Figure 4—Where practical, encourage forest visitors to separate their recyclable items through self-service stations.

Engineering Controls

Preplanning

Prevention is the key to reducing accidents and injuries. Awareness is the first step in recognizing potentially hazardous conditions. Such awareness should expand to identify other unexpected hazards, such as illegal dumping of hazardous residues or chemicals, usually associated with drug labs. All field units should prepare and implement an exposure control plan.

Definitions

Bloodborne Pathogens—Pathogenic microorganisms present in human blood that can cause disease in humans. These pathogens include Hepatitis B Virus and Human Immunodeficiency Virus.

Contaminated—The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

Exposure Control Plan—A written plan designed to eliminate or minimize employee exposure to bloodborne pathogens. Refer to Forest Service Interim Directive (ID) 6709.12-96-1, 5/15/96, and local policy, for guidance on assembling your plan.

Universal Precautions—An approach to infection control where all human blood and certain body fluids are treated as if they are known to be infected with HBV, HIV, and other bloodborne pathogens.

Work Practice Controls—Administrative controls that reduce the likelihood of exposure by altering the manner in which a task or procedure is performed.

Immunization

Due to the risk of contracting bloodborne diseases, recreation program managers should, at a minimum, make HBV and tetanus vaccinations available to occupationally exposed employees regularly assigned to collect refuse.

Note: The HBV vaccination is a series of three shots. The first shot should be given within 10 days of someone's being assigned to collect refuse. The second injection is given one month after the first, and the third injection six months after initial dose. More

than 90 percent of those vaccinated will develop immunity to the Hepatitis B Virus. It is very important for individuals to receive all three injections. Check with your local health center for current cost. The vaccination offers HBV protection for at least 9 years.

Since there is no vaccine against HIV, implementing work practice controls, taking universal precautions, wearing the appropriate personal protective equipment, and becoming aware of exposure hazards are the best defenses for employees at risk (Figures 5 and 6).



Figure 5—Personal protective equipment are essential for safe refuse collection.

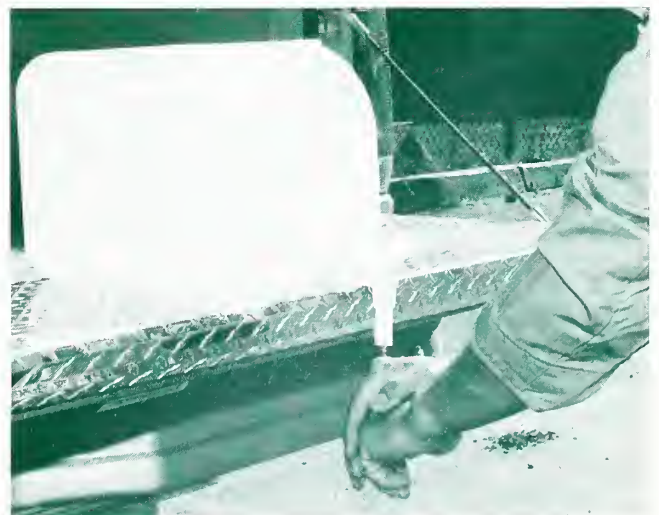


Figure 6—Practice good personal hygiene.

Safety Tools and Personal Protective Equipment

The following guidelines should be used to train employees who routinely perform refuse collection work. These guidelines are primarily intended to reduce the risk of accident and injury. It is important to consider all garbage as potentially hazardous.

The most important preventive measure that can be taken by supervisors is to make sure all personnel regularly involved in refuse collection work have received bloodborne pathogens training and have updated their vaccination records. Because it takes 6 months to complete the HBV vaccination series, managers may have to assess who is presently collecting the refuse.

All workers with primary duties that include refuse collection should be equipped with the recommended personal protective equipment to minimize the risk of injury or contamination. These include:

- **Long Pants**—Pants prevent scrapes and provide personal hygiene. They are not intended to protect against direct penetration of a needle or other pointed object.
- **Long Sleeve Shirt**—Shirts prevent scrapes and provide personal hygiene. The garment is not intended to protect against direct penetration of a needle or other pointed object.
- **Latex or Vinyl Aprons** (optional)—In repetitive work, an apron provides an additional barrier. However, wearing an apron is impractical in hot, humid work situations when you're constantly getting into and out of the collection vehicle.
- **Work Boots**—Boots help prevent injury if you step on something that would otherwise puncture or cut your feet. Boots will also prevent injuries associated with objects or debris that may be accidentally dropped. Steel-toed boots may be a consideration.
- **Leather or Cut-Resistant Gloves**—When used with disposable gloves, leather gloves provide added protection as an outer shell.

Note: *Currently, no commercially available glove will stop the direct penetration of a needle. A leather glove provides limited protection if bought strictly for the purpose of preventing punctures. A glove with leather palms and a cloth fabric back provides durability and comfort. As a general rule, a glove that fits well and is comfortable to wear is more likely to be used than a rigid, uncomfortable glove.*

- **Disposable Gloves**— Disposable gloves are worn underneath the primary glove, which serves as a chemical-, puncture-, and abrasion-resistant barrier. Latex, a natural rubber, causes allergic reactions for some users. Synthetic gloves, such as vinyl or nitrile (or N-Dex), provide comfort and dexterity during prolonged use. Disposable gloves should be 4 to 8 mil thick.

Note: *Always wear gloves. Gloves won't prevent a needle stick, but they will keep out 50 percent of the bacteria on a needle if a puncture should occur. Gloves should be replaced if they are torn, punctured, or contaminated; or if their ability to function as a barrier is compromised.*

- **Protective Glasses or Goggles**— Glasses should be worn when you are mechanically compacting trash. Objects such as glass bottles, light bulbs, and wooden sticks often shatter and may be deflected toward your face.
- **Spray Containers**— Containers filled with antibacterial soap in water solution will allow employees to wash hands between pickups and before eating.
- **Antimicrobial Towelettes or Waterless Gels**— Use these products after removing your gloves. They provide extra protection against exposure to infectious organisms that may have gotten through pinholes or tears in the gloves.
- **Litter Picker**—A tool for picking up stray items in and around recreation areas and refuse sites. By using the tool, you avoid direct contact with items that may be contaminated (such as sharps, condoms, bloody garments, or rags).
- **Sharps Container**—An approved hard plastic container marked with a biohazard symbol used to transport and dispose of syringes and other drug paraphernalia found while collecting refuse.
- **Hand Truck or Cart**—Lightweight dolly for hauling heavy bags from collection container to vehicles.
- **Compacting Tool**—This tool is used to compress trash into the bag, allowing it to be closed and sealed more easily. A long-handled sledgehammer or commercially designed tool is recommended for this application.
- **Heavy Duty Trash Bags**—Bags that provide adequate puncture and tear resistance are recommended.

Safety Tools and Personal Protective Equipment

Using all of the above personal protective equipment and safety tools will greatly minimize employees' risk of becoming injured and possibly contaminated while collecting refuse (Figure 7).



Figure 7—Equipment needed for refuse collection.

Safety Practices

Now that you have the equipment you need to collect refuse safely, remember a few key points when you're actually collecting refuse.

- Review and update your job hazard analysis (JHA) (Figure 8).



Figure 8—Review your job hazard analysis.

- When arriving at each location, survey the area for signs of sharps or other potentially contaminated objects (Figure 9).



Figure 9—Look for indicators of contaminated refuse.

- Consider all refuse to be hazardous; always be prepared and properly equipped (Figure 10).



Figure 10—Handle potential hazards safely.

- Keep the plastic bag away from your body (never swing the bag over your shoulder or against the side of your leg). When bags are too heavy to haul by hand, a lightweight hand truck or cart, should be used to transfer them to the collection vehicle (Figure 11).



Figure 11—Use a hand truck or cart to transport heavy bags.

- Avoid reaching into containers (trash bags, barrels, and cans) without first knowing the contents. Do not compress a bag with your hands or feet (Figure 12). A sledgehammer makes a practical tool for compacting trash (Figure 13). Some situations may

require a lighter tool for compacting paper, such as paper towels in restrooms (commercial tools such as Trash Mashers are available). **Caution: Use extreme care when compacting refuse with heavy tools. The tool's force may cause glass to shatter or cause other debris to fly back at you.**



Figure 13—Use safety equipment provided for the job.



Figure 12—Do not crush refuse with your feet.

Alternatives

One alternative to Forest Service employees collecting refuse is to contract all refuse collection to a commercial collection service (Figure 14). Due to the remoteness of many recreation sites and budgetary constraints, this may not be a viable option.

Encourage the use of “Pack-it-in, Pack-it-out” programs. Effective signing and monitoring make this method effective. This approach works best at areas that do not experience heavy use.

Increase the frequency of collection (Figure 15). When bags get too full, the handling gets tougher and the risk of workers becoming injured or infected increases.

Reduce handling time and transport distance by consolidating or centralizing collection containers. Where practical, place collection containers near roadways for easy access by collection vehicles.

Where practical, an easy solution for removing full bags is to first seal the bag, tip the container on its side and pull the bag horizontally out of the metal container (Figure 16). This method will reduce the risk of back injuries.



Figure 14—Commercial refuse collection services may be an alternative to Forest Service collection.



Figure 15—Do not allow refuse to build up.



Figure 16—An alternative technique for removing plastic bag liners.

Conclusions

Maintain a hazard awareness program for all employees assigned to refuse collection (Figure 17). Employees should never jeopardize their personal health and safety. Each garbage collection job should be viewed as being potentially hazardous. Taking your time, setting high

standards, and being properly prepared will minimize the risks associated with refuse collection.

Avoid shortcuts. Stay alert. Be attentive. Always use appropriate personal protective equipment.



Figure 17—Maintain a hazard awareness program.

Conclusions

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Kinville, Kim M.; Hoshide, Gary T. 1996. Proper handling procedures for refuse collection. Tech. Rep. 9623-2846-MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Missoula Technology and Development Center. 14 p.

This report discusses the appropriate procedures for safely collecting refuse from National Forest facilities. It complements the report, *Cleaning Recreation Sites* (9523-1206-SDTC), published by the San Dimas Technology and Development Center in San Dimas, CA.

Keywords: accident prevention; hazardous wastes; infectious diseases; occupational hazards; protective clothing; safety at work.

Additional single copies of this document may be ordered from:

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